

REMARKS

Reconsideration of this application is requested.

Claim 18, held to be drawn to non-elected matter, has been canceled without prejudice to divisional filing thereon.

Claims 4-17 have been amended to obviate the Examiner's multiple dependency objection.

Claim 1 has also been amended to emphasize novel aspects of the applicant's process.

The Examiner is requested to reconsider the Section 102(b) rejection of claims 1-3 as anticipated by Judd (U.S. 4,065,289) when taken with Sandell (U.S. 5,474,971). Judd does not disclose the applicant's process as defined in claims 1-3 for reasons noted below.

Furthermore, it is considered inappropriate for the Examiner to combine the disclosures of Judd and Sandell in an effort to support rejection under Section 102(b). In any case, Sandell does not support the Examiner's view that Judd inherently meets all of the features of the applicant's process as defined in claims 1-3.

More specifically, it is noted that Judd relates to slow-release granules, whereas the present invention is concerned with water dispersible granules. These are entirely different objectives.

The applicant's claims are directed to a process for making water dispersible granules containing an active ingredient and an excipient, especially agrochemical granules. The granules exhibit a desirable combination of characteristics including good delivery of the active through enhanced dispersibility and dissolution and acceptable structural integrity. Enhanced dispersibility provides the practical benefit that a higher proportion of the active content of the granule may be delivered to a substrate, for example, a crop, to be treated. Thus, a desired dose of the active material may be delivered at a reduced loading of the active in the granule or a higher level of active may be delivered for a given active content as compared to known granules. The active is used much more efficiently than hitherto by avoiding wastage in the application of the granule through poor delivery. As a consequence, the granule may be produced at lower cost and it also has a lower environmental impact, a lower dose being required to achieve a given effect.

These characteristics are essential to the granules produced by the process of the present invention and it is that process which imparts those product characteristics. The entire essence of the process is to produce water-dispersible granules.

The applicant's invention, with the resultant advantages in the product obtained thereby, involves processing the essential product ingredients in a manner which runs contrary to accepted practice in the water-dispersible granules art. The essence of the applicant's process is that an extrusion process is employed in combination with a prior mixing regime that, unlike known processes for making water-dispersible granules, avoids the formation of a paste in mixing the ingredients prior to extrusion and instead involves the preparation of a pre-mix in the form of a free-flowing powder for supply to the extruder.

This method of producing the granules imparts the improved dispersibility of the active providing effective delivery to the target. In the agrochemical art, the term "water-dispersible granule" is clearly understood as meaning a granule which disperses or dissolves rapidly in water, prior to application of the crop to the area being treated, so as to provide good active delivery.

Judd, on the other hand, relates to a method of making a solid fertilizer, herbicide granule in the form of cohesive pellets in which the release of the fertilizer component of the granule is intentionally retarded (Col. 1, lines 30 to 35). Moreover, the granules are intended for use in solid form by direct application to the crop or area to be treated as evidenced by the passage at Column 4, lines 51 to 58 where Judd states:

"The rate of application of the granules will be selected in relation to the intended . . . effect. . . ."

and

"At low application rates, particularly with large granules, it is advantageous to crush or otherwise subdivide the granules before application"

The granules of Judd are not, nor intended to be, used as water-dispersible granules as understood in the art. Judd itself makes no reference whatsoever to water-dispersible granules and it cannot be said that the process of Judd makes or is intended to make granules of this type.

The process disclosed in Judd requires the herbicide and fertilizer to be mixed and extruded wherein the herbicide softens or flows so as to lubricate the extrusion process (Col. 2, lines 58 to 66). At Column 3, lines 38 to 43, it is noted that water may be added to aid extrusion but that is not in general desirable. This provides a clear teaching to the skilled person that water should generally be avoided in the process.

Judd's Example 5 is cited by the Examiner with respect to applicant's claim 2. This example refers to a mixture containing, as fertilizers, urea, potassium nitrate and monoammonium phosphate. A part of this is mixed with the herbicide. This mixture is then added to the remaining fertilizer and 3 ml of water is added. There is clearly no teaching in Judd of the applicant's feature of providing a pre-mix in the form of a free-flowing powder to be extruded to make water-dispersible granules. The purpose of Judd (slow release) is fundamentally different from the applicant's provision of water-dispersible granules.

The present invention requires that an excipient be present in the pre-mix with the active ingredient. In the context of the present invention, an excipient is a material which aids the dispersibility of the final granule and suitably is a surfactant, a flow agent or a disintegrant. It is not a fertilizer. Within the meaning of the present invention, Example 5 of Judd does not contain an excipient.

The product made in Judd's Example 5 contains 94% fertilizer and is intended to be used as a solid and to provide slow release. It is not a water-dispersible granule as understood by the skilled artisan and does not contain an excipient.

The applicant submits that, when read on its merits and in its own context, Judd clearly does not disclose a process for the production of water dispersible granules containing an excipient. As such, the present claims are clearly novel over Judd.

The Examiner cites Sandell (Col. 1, lines 10 to 35) apparently in order to support alleged inherency in Judd. Firstly, the applicant submits that Judd is to be read in isolation and in the context of the common general knowledge pertaining to its field – that of solid slow-release fertilizer granules. As such, employing a reference (Sandell) that does not relate to this field is, in the applicant's view, inappropriate. Furthermore, the reference to Judd in Sandell (Col. 1, lines 28-32) does not say that the granules of Judd are water-dispersible. This portion of Sandell simply states:

"[Judd] discloses a herbicidal composition containing a plant fertilizer component and a herbicide component which is extruded through a die at 70 to 145C. The herbicide component acts as a lubricant to permit ready extrusion and to form a coherent extrudate."

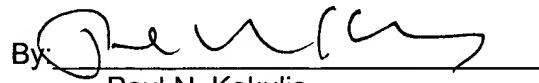
Sandell stipulates that an active ingredient, a water-soluble diluent, a binder and two or more additives be present. None of these components are fertilizers nor is any reference to fertilizers made in Sandell. By complete contrast, as noted above, Example 5 in Judd contains 94% fertilizer. The compositions are completely different, with the overwhelming majority component of Judd not being disclosed at all in Sandell and also the product properties and intended uses of the products are entirely different. It is therefore difficult to see how Sandell could conceivably be in any way relevant to interpreting Example 5 or any other part of Judd as inherently or expressly disclosing the applicant's invention. Clearly, Sandell cannot provide any teaching to show that Judd inherently meets the features of applicant's process as defined in claims 1-3. Accordingly, the applicant submits that the Section 102(b) rejection of these claims should be withdrawn.

The applicant's other claims (claims 4-17) should also be allowable over the Examiner's art for the reasons noted above as well as for the various specific features recited therein as used in the context of the applicant's process for preparing water-dispersible granules.

Favorable reconsideration is requested.

Respectfully submitted,

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